IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

IN RE: MARUTIAN, et al.	)
	) **APPEAL NO. _____**
SERIAL NO: 10/500,350	)
	)
FOR: METHOD OF APPLYING THE COATINGS FROM ALUMINUM ALLOY ON CAST IRON AND STEEL PRODUCTS	)
	) **REPLY APPEAL BRIEF**
FILED: February 9, 2005	)
	)
GROUP ART UNIT: 1792	)

To the Commissioner of Patents and Trademarks
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KIRK M. HARTUNG

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I. STATEMENT OF ADDITIONAL FACTS

Austenite is a well-known form or feature of iron under certain conditions. See Exhibit A, attached.

The Mandrel test is a standardized test, ASTM D522. See Exhibit B attached.

II. ARGUMENT

A. The 35 U.S.C. § 112 (1) Rejection Based Upon Lack of Written Description Must be Reversed.

The Examiner has rejected the claims under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement, with three alleged deficiencies: 1) the lack of preheating requirement of claims 1, 2 and 5; 2) the lack of copper limitation of claim 2; and 3) the two minute maximum time limitation of claim 3. The Examiner's basis and rationale for each of these three claim limitations is erroneous, such that the 35 U.S.C. § § 112(1) written description rejection must be reversed.

1. Without Preheating

Claims 1, 2 and 5 each require the negative limitation that the method be conducted without preheating to within austenitic temperatures prior to the plunging step. The Examiner notes that the specification is silent with regard to this negative limitation, and therefore concludes that the limitation is not supported by the specification, citing MPEP § 2173.05(i). However, this MPEP section is inconsistent with the statute. Neither the MPEP nor case law can supersede the statute.

More particularly, 35 U.S.C. § 112 merely requires that

> "The specification contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention."

The Examiner has presented no evidence that one skilled in the art cannot practice Applicant's invention based upon the written description. Therefore, the statutory requirement under 35 U.S.C. § 112 (1) is satisfied.

The statute does not require a description of everything outside or excluded by the invention. For example, there is no description in Applicant's specification that the process be conducted in a vacuum or at increased pressures. Therefore, one skilled in the art would understand from the description that neither a vacuum or increased pressure is required for Applicant's inventive process.

As noted by the CCPA *In re Johnson*, 558 F.2d 1008 (CCPA 1977) (cited in MPEP § 2173.05(i), the specification describes the whole invention. There is no requirement to describe anything beyond the invention.

The Examiner asserts on page 7 of the Answer, that preheating is conventional, and one of ordinary skill in the art would expect preheating of the product to be coated. However, if preheating was required in Applicant's invention, then 35 U.S.C. § 112(1) requires that preheating be described. If preheating was a necessary step of Applicant's invention (which it is not), and Applicant added a positive claim limitation regarding such preheating, such a positive claim limitation would be rejected as constituting new matter, since preheating is not described in the specification. If preheating constitutes new matter due to silence in the specification as to any preheating step, then the lack of preheating is implicit from such silence.

The Examiner's own description of the prior art supports this conclusion that one skilled in the art would assume there is no preheating, since there is no description of preheating. In particular, on page 13 of the Answer, the Examiner describes her understanding of the primary reference Rallis to perform the application of aluminum coating without flux, since Rallis has no teaching of applying flux. Since the silence in Rallis regarding application of flux is sufficient for the Examiner to understand that the Rallis process is performed without flux, similarly, Applicant's silence as to preheating is sufficient for the conclusion that the process is performed without preheating. It is improper for the Examiner to assert that silence in the prior as to a limitation teaches the absence of the limitation, but then assert the contrary with respect to Applicant's specification and that silence of a limitation does not teach absence of the limitation.

In *Ex parte Parks*, 30 U.S.P.Q.2d 1234 (BPAI 1994), the Board concluded that silence in the specification did not preclude a negative limitation in the claims. As the Board ruled,

> "The observation of a lack of literal support does not, in and of itself, establish a *prima facie* case for lack of adequate descriptive support under the first paragraph of 35 U.S.C. § 112." *Id.* at 1236.

In *Parks*, the claims were directed towards a method, with the negative limitation of "absence of a catalyst." The Board explained that the specification seemed to "cry out for a catalyst if one were used" but no mention is made of a catalyst in the specification. The Board therefore concluded that one having ordinary skill in the art would have recognized that the process was conducted without a catalyst. Similarly, in Applicant's specification, there is no

discussion of preheating. Based upon the Examiner's description of the conventional prior art preheating processes, it seems that the specification would cry out for preheating if it was a step in Applicant's process. Absent any description on preheating, one skilled in the art would recognize that preheating is not required in Applicant's process, similar to *Parks,* wherein the Board of Appeals concluded that one skilled in the art would understand that the process did not require a catalyst in view of the silence in the specification regarding a catalyst.

For all of the above reasons, the 35 U.S.C. § 112(1) rejection relating to the preheating negative limitation must be reversed.

2. Without Copper

Claim 2 requires the negative limitation that the alloy coating excludes copper. For all of the reasons set forth above with respect to the negative limitation regarding "without preheating", the Examiner's rejection under 35 U.S.C. § 112(1) of the "without copper" limitation must be reversed.

Furthermore, the specification clearly and unambiguously describes the alloy as containing an aluminum base, and zinc, silicon, magnesium, and tin. Nowhere does the specification teach or suggest that other components should be added to the alloy.

Surely, Applicant could not add a claim limitation that the alloy includes copper, since such a limitation would constitute new matter. Conversely, if adding a positive copper limitation constitutes new matter, then the negative limitation of "without copper" cannot also constitute new matter. It is illogical to have a situation where the addition or deletion of

copper would both be new matter. The Examiner has provided no evidence that one of ordinary skill in the art would read Applicant's specification, and then add copper to the alloy.

The Examiner's rationale is based upon "comprising" language, which allegedly indicates that the alloy can include other ingredients, beyond those specifically listed in the specification. See the Examiner's Answer, page 8. Using this rationale, Applicant would have to list everything that must be excluded from the alloy. Again, 35 U.S.C. § 112(1) does not require a description of everything outside the invention.

On page 9 of the Answer, the Examiner asserts, without any evidentiary support, that one of ordinary skill in the art would expect inclusion of copper, since copper is used in the prior art. However, 35 U.S.C. § 112(1) does not require the Applicant to discuss or distinguish the prior art. Since the specification describes the whole invention (*In re Johnson*, 558 F.2d 1008 (CCPA 1977)), the absence of copper in the specification teaches one of ordinary skill in the art that copper was not intended to be included as an ingredient of the alloy.

Therefore, this 35 U.S.C. § 112(1) rejection must be reversed.

3. For Two Minutes or Less

Claim 3 requires that the plunge be for two minutes or less. The Examiner asserts that this is not supported by the specification, since the specification has examples wherein the plunge time is 40-120 seconds. The Examiner acknowledges on page 24 of the Answer that Tables 1 and 2 support the plunge times for exposure to the melt, and that 120 seconds is the highest amount of time. Based upon Tables 1 and 2, it is fair to conclude that a person

having ordinary skill in the art would understand that the preferred plunge time would not exceed 120 seconds. Tables 1 and 2 have columns showing a range of the melt temperature and plunge times. The first row of the Table 2 shows temperature of 350° C and a time of 120 seconds. The Examiner apparently is relying on the claimed temperature of 360°-380° C, which is 1.5% greater than the 350° temperature of Table 2. There is no evidence that a person skilled in the art would consider the small temperature variance to be critical, such that the claims are not supported by the specification. Thus, the limitation of claim 3 that the plunge be for two minutes or less is within the understanding of a person skilled in the art.

Therefore, this 35 U.S.C. § 112(a) rejection should be reversed.

B. The 35 U.S.C. § 112 (1) Enablement Rejection Must Be reversed.

The Examiner has rejected claims 1, 2, 3 and 5 as failing to comply with the enablement requirement of 35 U.S.C. § 112, particularly with regard to the limitations of the claims regarding a Mandrel test. In particular, the Examiner asserts that one of ordinary skill in the art would not be able to make or use the invention, since they allegedly do not know how to perform a Mandrel test. However, the Mandrel test is a well-known standardized test, ASTM D522. See Exhibit B. Furthermore, equipment is commercially available to perform a Mandrel test under ASTM D522, as seen in Exhibit C.

Since the Examiner's premise is erroneous regarding knowledge of Mandrel tests, this 35 U.S.C. § 112(1) enablement rejection is fatally defective and must be reversed.

C. The 35 U.S.C. § 112(2) Rejection is Improper and Must Be Reversed.

The Examiner raises two indefiniteness issues. First, the Examiner asserts confusion as to what is to be preheated, the product or the alloy, and what austenitic temperature is referred to, that of the product, or of the alloy. However, since austenitic temperatures relate to iron or steel, and not to aluminum, it would be clear to a person having ordinary skill in the art that the limitation that the process be performed without preheating to the austenitic temperature refers to the steel or cast iron product being coated, and not to the alloy melt. (See Exhibit A, which defines austenite as being a form of iron under certain conditions.)

Next, the Examiner asserts indefiniteness with regard to the Mandrel test, since the specification allegedly does not provide an adequate description of how the Mandrel test works, such that the test can be reproduced, understood, or compared. However, as discussed above, since the Mandrel test is a standard ASTM test, one skilled in the art would know how to do the Mandrel test.

Therefore, since austenitic temperatures and Mandrel tests are well-known in the art, the specification is not indefinite and this rejection must be withdrawn.

D. The 35 U.S.C. § 103 Rejection of Claims 1, 2 and 5 Based Upon Rallis and Japanese '213 Must Be Reversed.

The Examiner admits that the primary reference, Rallis, does not teach the claimed bath temperature, the precise alloy composition, the Mandrel test, or the lack of preheating, as required by claims 1, 2 and 5. The Examiner relies upon the Japanese '213 reference for the alloy composition, however, the zinc component of the alloy in '213 is 2%-8%, whereas each

of claims 1, 2 and 5 require that the zinc be 7.0%-10.0%. At best, the '213 patent zinc range is 20% short of Applicant's zinc quantity. This 20% difference is not insubstantial. Thus, Applicant's zinc is not encompassed by the zinc of the '213 patent. Applicant's zinc range does not fall with the zinc range of the '213 patent. Therefore, even if the Rallis alloy is modified in accordance with the Japanese '213 patent, the claimed zinc range is not satisfied. For this reason alone, the 35 U.S.C. § 103 rejection should be reversed.

The Examiner also asserts that the Rallis process would produce a coated product that would meet the claimed Mandrel test, because the modified Rallis alloy meets the claimed percentages for components. However, as discussed above, the claimed zinc range of 7-10 is not met by the Rallis alloy, even as modified. Therefore, the premise for the Examiner's unsupported conclusion that the coated Rallis product would meet the Mandrel test is defective.

The Examiner further asserts, without support, that it would be obvious to perform the Rallis coating method, in view of the Japanese '213 patent, without preheating, as required by claims 1, 2 and 5. The Examiner admits that Rallis teaches preheating. As the Federal Circuit has explained, "it is not obvious to modify a prior art device in a manner inconsistent with the prior art reference. *In re Gorden*, 733 F.2d 900, 902 (Fed. Cir. 1984). Thus, since Rallis teaches preheating, it is not obvious to modify Rallis to eliminate preheating.

Furthermore, the Examiner cites nothing from the Japanese '213 patent to suggest that preheating should be eliminated in Rallis.

The Examiner then submits on page 16 of the Answer, that it is obvious to eliminate an element that is not desired. This simply is not the test for obviousness. The Examiner cites *In re Karlson*, 136 U.S.P.Q. 184 (CCPA 1963), for the proposition that omission of an element and its function involves only routine skill in the art where the remaining elements perform the same functions. However, there is no suggestion that the Rallis coating process is the same with and without preheating. The Examiner's conclusion is an illusory, unsupported argument, apparently made in hindsight, in an effort to satisfy the limitations of claims 1, 2 and 5 that Applicant's process be performed without preheating.

Therefore, for all of the above reasons, the 35 U.S.C. § 103 rejection of claims 1, 2 and 5 based upon Rallis and the Japanese '213 patent must be reversed.

E. The 35 U.S.C. § 103 Rejection of Claims 1, 2, 3 and 5 Based Upon Gierek, Rallis, and Japanese '213 Patent Must Be Reversed.

The Examiner admits on page 17 of the Answer that Gierek does not teach jet abrasion, the precise temperature of the melt bath, the precise amounts of the alloy components, and the Mandrel test features, all as required in claims 1-3 and 5. The Examiner cites the Rallis patent as teaching the jet abrasion, and the Japanese '213 patent is teaching the alloy component amounts, in accordance with the claims. However, as discussed above with respect to the other 35 U.S.C. § 103 rejection, the Japanese '213 patent does not have zinc in the range of 7%-10% as in the claims, but rather only has zinc in the range of 2%-8%. Thus, Applicant's claims distinguish over the cited references, even if combined.

Furthermore, as discussed above with respect to the first 35 U.S.C. § 103 rejection, none of the references teach or suggest the claimed Mandrel test result for the coated product. The Examiner again asserts a conclusion that the Mandrel test will be satisfied because the alloy components are in the range of the claims. However, since the zinc is not within the claimed range, the premise for the Examiner's conclusion regarding the Mandrel test is faulty, such that the conclusion is fatally defective.

Therefore, for the above reasons, the 35 U.S.C. § 103 rejection based upon Gierek, Rallis, and the Japanese '213 patent must be reversed.

F. Claim 4 is Not Appealed.

As noted in Applicant's primary Brief, page 1, the claims appealed are claims 1-3 and 5, as set forth in the Claims Appendix. Claim 4 is not under appeal, and therefore, all arguments relating to claim 4 are moot for purposes of Appeal.

III. CONCLUSION

Since the Examiner's 35 U.S.C. § 112 rejections are faulty, defective, or otherwise unsupported by any evidence, these rejections must be reversed. Similarly, since the 35 U.S.C. § 103 rejections are not supported by the cited references, alone or in combination, these rejections also must be reversed.

In view of the foregoing, Applicant respectfully requests that the Board reverse all of the Examiner's rejections and direct the Examiner to issue a Notice of Allowance.

No fees or extensions of time are believed to be due in connection with this Reply Brief; however, consider this a request for any extension inadvertently omitted, and charge any additional fees to Deposit Account No. 26-0084.

Respectfully submitted,

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Enclosures: Exhibits A, B and C

austenite

One entry found.

On Off

Main Entry: **aus·ten·ite**
Pronunciation: \ȯs-tə-ˌnīt, ˈäs-\
Function: *noun*
Etymology: French, from Sir W. C. Roberts-*Austen* †1902 English metallurgist
Date: 1901

: a solid solution in iron of carbon and sometimes other solutes that occurs as a constituent of steel under certain conditions
— **aus·ten·it·ic** \ȯs-tə-ˈni-tik, ˌäs-\ *adjective*

EXHIBIT
A
webber

Back to Paint and Related Coating Standards

ASTM D522 - 93a(2008)

ASTM D522 - 93a(2008) Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings

Active Standard ASTM D522 Developed by Subcommittee: D01.23 |**Book of Standards Volume:** 06.01

ASTM D522

Significance and Use

Coatings attached to substrates are elongated when the substrates are bent during the manufacture of articles or when the articles are abused in service. These test methods have been useful in rating attached coatings for their ability to resist cracking when elongated. They have been useful in evaluating the flexibility of coatings on flexible substrates.

1. Scope

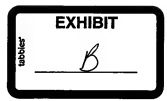
1.1 These test methods cover the determination of the resistance to cracking (flexibility) of attached organic coatings on substrates of sheet metal or rubber-type materials.

1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.3 This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

2. Referenced Documents

D1005 Test Method for Measurement of Dry-Film Thickness of Organic Coatings Using Micrometers
D1186 Test Methods for Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to a Ferrous Base
D1400 Test Method for Nondestructive Measurement of Dry Film Thickness of Nonconductive Coatings Applied to a Nonferrous Metal Base
D823 Practices for Producing Films of Uniform Thickness of Paint, Varnish, and Related Products on Test Panels



Index Terms

cracking; flexibility; resistance—cracking; Cylindrical mandrel apparatus; Elongation--organic coatings; Film--paints/related coatings/materials; Flexibility; Latex paints; Mandrel test apparatus; Metallic coatings; Organic coatings; Panel evaluation; Rubber property analysis; Sheet metal; Solventborne paints/coatings; Substrates--coating applications; Bend testing--coatings; Conical mandrel apparatus; Cracking--coatings; ICS Number Code 25.220.60 (Organic coatings)

DOI: 10.1520/D0522-93AR08

ASTM D522 (Paint and Related Coating Standards)

Citing ASTM Standards

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EN ISO 1519, ASTM D 522

Cylindrical Mandrel Bending Tester, Model 266

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